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ABSTRACT

The Bilingual Education Act of 1968 and the Indian Education Act of 1972 have brought Navajo education into a new period, characterized by a return to a more traditional curriculum, within the parameters of the bicultural life ways of the contemporary Navajo. This document addresses the issue of designing educational facilities that contribute positively to a bicultural educational curriculum. The study examined traditional Navajo education as seen through the perspective of contemporary Navajo elders. Small group interviews in a loose, open-ended format were used to obtain data on the educational values of the Navajo elders. Navajo elders were concerned with the Navajo language, considering that a knowledge of Navajo was a prerequisite for understanding Navajo values and traditions; at the same time, they felt that English should also be taught. Elders believed that Navajo cultural practices should be taught and practiced and that students should have vocational and professional training, including traditional Navajo craft skills. In traditional education, life-style and education are inseparable, and elders wanted this holistic approach for their children. The final sections of the report are concerned with relating these values to school site location and organization, facility design and scale, space organization, interior decoration, and the use of special rooms, possibly resembling hogans, for Navajo language teaching. The document contains 30 references. (DHP)

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Navajo Educational Values and Facility Design

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The success of this study can be attributed to the elder members of the Navajo Nation who were willing to discuss their views on Navajo education in the past, present, and future. They did so not for our sake, nor for theirs, but for the sake of their grandchildren and future generations of Navajo children.

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Introduction

> Navajos now see formal education as an institution which intrudes and disrupts rather than complements existing lifeways...Navajos want this changed; they want to see a reflection of their evolving society in their educational system (NNER[1] 1978:4).

Introduction

Education on the Navajo Reservation has gone through several periods of change. Prior to the 20th Century, Navajo children were educated traditionally and acquired knowledge exclusively by participating in the Navajo cultural system. This traditional educational system was forcibly changed to an Anglo system in the early 1900's (McCarty 1985) when children were removed to boarding schools to be taught Anglo skills, knowledge, and cultural values. The goal of this was to forcibly initiate enculturation. The imposition of an Anglo system on the Navajo continued through the first half of the 20th Century and for the most part is still in place. This is not to imply that there have not been educational changes during this period. As Anglo views on education have gradually

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1. Navajo Nation Education Review

changed to be more culturally sensitive, many of these changes have been reflected in education on the Reservation (eg. CCSD22[2] 1982). But even with increasing changes in the educational system, cultural problems remained. Leighton and Kluckhohn (1948:64) note that "Entering a boarding school even today [1940's], when former militaristic, coercive methods have been abandoned, is a severe break with familiar ways and people."

These changes culminated in 1966 with the establishment of the Rough Rock Demonstration School to formally begin bilingual-bicultural education for Navajo children. The creation of this school was shortly followed by the Bilingual Education Act of 1968 and the Indian Education Act of 1972 in what can now be seen as the beginnings of a new period in Navajo education. While this new period can be characterized by a return to a more traditional curriculum, it does so within the parameters of the bicultural life ways of the contemporary Navajo.

Goals of Project

This document reports on work that was undertaken as a part of this new educational paradigm and is particularly focused upon educational facility design. The primary question that this study addresses is: How can educational

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2. Central Consolidated School District 22

facilities be designed to positively contribute to a bicultural educational curriculum? Since the current educational system is predominantly an Anglo one, this study focused on changes that could be made to the existing system to make it more representative of the traditional Navajo educational system. Therefore, this study examined traditional Navajo education as seen through the perspective of contemporary Navajo elders. By assessing contemporary educational values of elders and analyzing these values in terms of their behavioral ramifications, recommendations can be made concerning design criteria for educational facilities that will contribute to meeting these educational needs.

Research Design

Small group interviews were used as the primary vehicle for obtaining data on the educational values of the Navajo elderly[3]. The Window Rock Unified School District No. 8 was stratified by the chapter houses located within the district. These chapter houses represented several points along the "rural/urban" continuum as far as it exists on the Reservation. At each chapter house, small discussion groups ranging from 2 to 9 people were organized. Interviews were were conducted at the group level rather than at the individual level for two major reasons, (1) to decrease the

3. The research for this project was designed by Richard F. Tonigan & Associates, Ltd.

amount of intimidation for those participating in the interviews and (2) to promote discussion on education from different perspectives. The interviewees were selected by the Chapter House Managers at the various chapter houses based upon their own criteria. While the selection criteria may have been biased at the level of particular chapters, a fairly representative sample of elderly tribal members was obtained at the level of the school district. Six discussion sessions were organized over a three day period in October of 1989.

Questions were asked in a loose, open-ended format, with ample room for divergence and elaboration by individuals in each group. Interview/discussions were held in mixtures of English and Navajo depending upon the language skills of the participants. A translator was used whenever it was necessary. Questions focused upon two major areas, cultural background and education, and were designed to facilitate responses about values on these items. Audio tape recordings were made of all interviews and a discussion outline can be found in Appendix A.

The Cultural Context of Traditional Navajo Learning

The Role of Education in Traditional Societies

Culture is commonly viewed by anthropologists as the knowledge an individual needs to act appropriately in the day-to-day activities of life (e.g. Goodenough 1981). Acquiring this knowledge occurs through the socialization process during which one observes and imitates others. One of the fundamental aspects of socialization is language acquisition which establishes a structure for giving meaning to the wide range of phenomena present in the external world (Whorf 1956). This cognitive system of meaning is commonly called one's world view.

In traditional societies, obtaining the information needed to function in society is learned informally through participating in activities to acquire necessary skills. Other cultural knowledge is maintained in oral form, usually by elder members of the society, and is taught via story telling. The "classroom" in traditional education is the home and the teacher is the family. The curriculum is one of survival and individuals are instructed in the skills necessary to make a living, the behaviors needed to get

along with others, and on information about the environment and the external world. "Failing" in traditional education is serious and often results in ostracism or death.

The Navajo prior to the 20th Century differed little from other groups in the organization of their traditional educational system (Hanson and Eisenbise 1981); Navajos learned by being talked to or by doing (NNER 1978:3).

> Navajo learning experience is largely influenced by the collective oral body of knowledge whose center is in the home and extended family. As the child grows older, the sphere of learning increases as he or she participates in the gatherings and interacts with relatives. In this way, valued truths, morals, and ethics are taught and incorporated into the Navajo child's total being (NNER 1978:3).

Navajo children begin learning language and values as soon as they are born. Children under the age of six have few responsibilities and "...when one asks adults about the activities of children, they have a standard reply: 'In the daytime they play, but at night they listen when the old people tell their stories'" (Leighton and Kluckhohn 1948:50). This soon changes however, and

> The period from six through the early teens is a time for learning skills as well as for developing responsible behavior. Besides the chores of chopping and bringing in firewood, emptying ashes, hauling water, husking corn, etc., instruction in more specialized tasks begins"(Leighton and Kluckhohn 1948:58-59).

Up until the age of eight, children of different sex are treated identically. At the age of eight however,

children begin to be taught sex specific activities by adults of the same sex.

> Girls learn to cook and to tend children under the supervision of their mothers and women relatives. They begin to card and spin at about ten and to weave a little later. Interest and aptitude are reinforced by such remarks as, "She is a good little weaver." Youngsters of both sexes get instruction and experience in animal husbandry and in planting and weeding crops. Fathers teach their sons the care of horses, agriculture, house-building, leather work, and other male skills. Apprenticeship as a silversmith, however, seldom begins in any very serious sense until the late teens, though a smith will naturally use his younger sons to assist him in various nontechnical chores (Leighton and Kluckhohn 1948:59)

The traditional Navajo classroom was the hogan where instruction began at birth and continued into adulthood. Begay and Spencer (1982:3) note that

> Traditional teaching methods, still very vital to Navajo family organization, utilize the hogan as the starting point for instruction and as the primary bridge to other aspects of the child's experience. Life begins in the hogan and from there, spirals in an ever widening circle to broader, more complex realities.

The hogan, as the center of Navajo life, is constantly returned to during the life of the Navajo. Puberty rites and the marriage ceremony occur within a hogan and hogans are often burned upon the death of an occupant (Leighton and Kluckhohn 1948).

As far as the role that traditional education plays in the structure and organization of cultures, Navajo education prior to this century differed little from other traditional societies. As McCarty (1984:25) states,

> ...traditional education for most children involved observation and imitation of adult economic tasks related to the home, the herd and the farm, and the gradual assumption of adult responsibilities. Through formal and informal processes, children were taught physical and intellectual endurance; in lectures, narratives and the course of daily activities, they learned proper behaviors associated with economic tasks, relationships with others and the use of natural resources. Education was not an experience separate from daily life, but was an integrated part of the social system and day-to-day affairs.

Navajo Educational Philosophy

The best depiction of Navajo educational philosophy is provided by Benally (1987). Benally first discusses the Navajo creation story in which the structure of the Navajo world is established. The organization of the Navajo world provides the setting in which all thinking and activity takes place. Benally then discusses the goals of Navajo life. As he states, "Without a clear conception of the ultimate goal in life there is much confusion and stifling of intellectual and emotional development" (Benally 1987:136). Following this, Benally goes on to discuss the organization of Navajo knowledge and the way that it contributes "...to the creation of a holistic and balanced life of an individual" (Benally 1987:140).

Prior to the creation of the world there existed colored lights wherein dwelt the Wind People. The colored lights came together and created the Supreme Holy Wind who in turn created other holy people. The Supreme Holy Wind

was assisted by these other Holy People in forming the earth from the same elements that they were made.

> When the earth came to life she took these same elements that gave her being and placed them in the present cardinal directions: In the easterly direction she placed the principles by which the people will live (bik'ehgo da' iináanii); in the southerly direction she placed the principles of making a living (nihigáál); in the westerly direction she placed the principles of thinking, planning and gathering of family (nahat'áh, nitsáhákees dóó aha'áná'oo'niiχ), in the north were placed the principles of rest, contentment and reverence (sih hasin, háá'ayíih dóó ha'ahóní).
>
> In these cosmic directions the Holy People also placed the following elements: In the east was placed light (adinídiin); in the south was placed water (tó); in the west was placed wind (niχch'ih); and, in the north was placed the Black Wind (niχch'ih diχhiχ), the particles of elements (matter) that gave physical structure to all creation (Benally 1987:135).

The goals and philosophy of Navajo life are based upon the organization of the earth. "It is the belief of the elders that that which was placed in the four sacred directions by the earth are united in the union of the man and woman" (Benally 1987:137). The Holy People and the earth surface people (diné) are believed to share a common essence and thus have unlimited potential for development even to the point of becoming one of the Holy People. One progresses towards this point by "...imitating the intellect, speech, and behavior of the Holy People" (Benally 1987:138). This includes living in terms of peace and happiness and in harmony with one's self, family, community, and environment. Self discipline is important in this

process and "...the most valuable lesson that a child is taught is to discipline his mind, body, and spirit so as to cultivate fortitude and vibrant initiative to survive (ha'ahóní dóó sih hasin)" (Benally 1987:139). The goal of individual strengthening, however, is not for good of the individuals themselves, but so the individual can contribute to the well being of the family, community, and tribe. "The youngster is <u>not</u> urged to strive for individual achievement. There is no promise of personal success for the able or hard-working or the good and the righteous" (Leighton and Kluckhohn 1948:40). Instead, personal success comes from knowing that one has contributed to the good of the group.

The knowledge that is needed to guide an individual through his/her life comes from each of the sacred directions and is combined in a balanced way. In the east, the location of the light of dawn, is found "...all knowledge that would prepare a person to make intelligent decisions whenever he must weigh values in order to determine a choice of behavior..." (Benally 1987:141). In Anglo terms this knowledge includes the subjects of aesthetics, ethics, language, philosophy, physical education, and religious studies.

South is the location of water and is associated with the activities and knowledge that are involved in making a living. In the Anglo scheme this includes such subjects as agriculture, carpentry, education, law, livestock

management, and other subjects relating to vocational and professional education.

West is associated with the social well-being of the Navajo tribe and the attributes of west include wind, thinking, planning, and gathering of family. The Anglo subjects that would associate with these attributes of west include family living, government, history, sociology, and psychology.

Associated with the north are the attributes of black wind, rest, and respectfulness. Benally (1987:143) notes that "The overriding theme for this direction seems to be respect for nature". Anglo subjects that relate to the physical and natural sciences would associate with this direction. Some of these include astronomy, biology, chemistry, ecology, geology, natural science, and physics.

For Anglos trying to understand some of the aspects of Navajo philosophy, it is necessary to constantly remind ones self that these different elements do not exist apart from one another. They exist holistically as one in the same and boundaries, particularly the boundaries of inside/outside, individual/group, and man/nature, exist only as products of language translation.

> The central focus of all learning is where all knowledge from the cardinal directions converges to promote a peaceful and harmonious life and society (hózhóogo iiná): a great central focus where to know, to admire, and to love are one and the same. (Benally 1987:143).

The Schism of Navajo Education and Life-Style.

The problems and concerns that Navajos have with modern education originate in the replacement of the traditional educational system with an Anglo educational system around the turn of the Century. At that time the traditional system of education completely met the needs of the Navajo life-style. Children were adequately trained in religion, history, language, culture, and vocational/professional skills. Education was not a process that was separated from everyday life; everyday life was education.

In the early 1900's several federal boarding schools were located on the reservation at Fort Defiance, Tuba City, Leupp, Crownpoint, and Chinle (McCarty 1984:26). Navajo children were often removed against their will and the will of their parents and taken to these schools. Schools were run in a very strict militaristic style that required daily drills and parades before the superintendent, manual labor, and the use of uniforms (often Army cast-off) (McCarty 1984:26). The curriculum consisted of traditional Anglo subjects; Navajo language and cultural practices were strictly banned.

Students educated during this time were placed in a position between two worlds (Brown 1986). As most student returned to their homes only for several months a year, they lacked instruction in the subjects and skills necessary for

their lives as Navajos. At school they were exposed to ideas, information, and values that conflicted with those of their people and few students had the opportunity to use these skills and information after their formal education had been completed (Leighton and Kluckhohn 1948:68; McCarty 1984:28). Not only did this place stress upon the individual student, it had serious consequences for the Navajo as a people.

> Navajo personality as formed in the pre-school years and the conditions of life as it still goes on in adult years in the hogans are not as yet geared to the demands of white men and the psychological atmosphere in schools taught and directed by white men. Until The People have gradually worked out adjustive techniques for reconciling their child training and their life ways with the inexorable realities created by white pressures, one must expect many disoriented and unhappy persons" (Leighton and Kluckhohn 1948:75).

This schism between Navajo life-ways and the formal Anglo educational system continues to this day. Navajos are still very much caught between two worlds.

> Navajos now see formal education as an institution which intrudes and disrupts rather than complements existing life-ways. Many parents complain that their children become alienated by impersonal and insensitive curriculum content. The present system negates the traditional value system and impairs the total development of the Navajo child. As a result, Navajo students receive very little reinforcement of their traditional values and knowledge and acquire only insufficient understanding of Anglo society. Consequently, they are not comfortable either in the Navajo or Anglo worlds. Navajos want this changed; they want to see a reflection of their evolving society in their educational system (NNER 1978:4).

It would be impossible and ill advised to return to a system of traditional Navajo education. The life-style of Navajos at the turn of the century is not the same as it is today. Contemporary Navajos exist in a world that is not the same as it once was several generations ago, but also do not exist in a world that is completely Anglo. They exist in a world that is different from both and yet is still uniquely Navajo.

Anthropologists do not know of a culture that is static; cultural change may be one of the few things that is truly universal. As people, their needs, and their life-styles change, their educational system must also change in response. Navajos do not need distinct Navajo and Anglo education since both are irrelevant to their needs and life-styles. They need a unique educational system that takes elements from both and combines them in a way that complements their contemporary culture. In short, Navajo education needs to once again be made a part of everyday life and provide the diné with the information and skills they need to fulfill a balanced and harmonious life.

The Educational Values of Modern Navajo Elders

Given the need for an education system that is responsive to modern Navajo culture, one needs to establish some of the values that form a part of contemporary culture. To this end, a number of Navajo elders who live in the Window Rock Unified School District No. 8 were interviewed. These interviews focused on community and education values unique to each chapter house. Several interesting patterns emerged from these interviews that can be viewed as being representative of the School District as a whole. These can be grouped into categories entitled Navajo language, Navajo society, Navajo economics, and Navajo life-style.

Navajo Language

By far the most common concern that was expressed by the Navajo elders was the concern with the Navajo language. This was not surprising considering that language is often considered to be the core element in a cultural system. Many people expressed the opinion that a knowledge of Navajo was a prerequisite for understanding Navajo values and traditions since many aspects of Navajo philosophy can't adequately be translated into the English language. Navajo

language learning was given the highest priority by those interviewed because of its basic role in Navajo culture.

The elders felt that far too few Navajo children currently speak the language and that this problem is rooted in Navajo life at home. Many parents do not speak Navajo and because of this some children learn English as their native language. It was thus felt that schools must emphasize Navajo but also that Navajo needs to be encouraged to be spoken in Navajo households. The traditional teachers of Navajo culture are the grandparents and in many households there is a communication problem between grandchildren who speak only English and their grandparents who speak only Navajo. Since language is learned from one's parents, the elders interviewed also expressed a concern that with so many children knowing only English, the Navajo Language will not be transferred to future generations.

A final theme that was often expressed about Navajo language was that children must not know only Navajo. English is also a necessity of contemporary Navajo life. The exclusion of English in the educational curriculum was felt to be as bad as excluding the Navajo language. What was particularly interesting was that the elders thought that language learning in the schools, as well as other cross-cultural subjects, must be taught together. For example, learning the Anglo culture and language in separate classes or at separate times from learning Navajo culture

and language would help to perpetuate the current problem of not relating education to life-style. Both English and Navajo language/culture need to be integrated and taught together.

Navajo Society

The topic of social knowledge was expressed as a concern by a number of elders at different Chapter Houses. These people were concerned that children were not learning Navajo social organization and the behaviors that go with different relationships. The elders who were interviewed thought that Navajo social relations were an important part of Navajo culture in the past and could still be included in contemporary Navajo life. One thing that was specifically mentioned was the lack of observance of marriage rules and taboos. These practices form the basis of other aspects of Navajo cultural organization such as household economic organization and it was thought that these should be taught in the schools and practiced in life.

Navajo Economics

Two types of concerns regarding economic organization and education were expressed by the elders. The first concern was with vocational and professional training and the second was with traditional Navajo craft skills.

A view of many elders was that the educational system needs to teach children the skills necessary to make a living in the modern economic system. They stressed that the skills taught in school need to be applicable and marketable to the opportunities that are currently available and are predicted to arise in the future on and near the Reservation. The vocations and professions that were specifically mentioned were construction, heavy equipment, masonry, carpentry, and auto mechanics. The elders thought that children need to learn skills to make them economically independent but also skills that could be used to make a living at home.

Traditional Navajo craft skills such as weaving, beadwork, and silversmithing were also stressed as being important, and not only from a "cultural knowledge" perspective. These skills were viewed as being important things to maintain as a part of the cultural system but were also seen as valuable in the contemporary economic system. Traditional skills were given importance partially because they were seen as ways to integrate the traditional Navajo culture with the Anglo economic system that increasingly predominates in Navajo economic life. Traditional crafts could be practiced at home and yet be profitably marketed in a cash economy. It was also commonly mentioned that when children are to be taught traditional skills they not be done so in a superficial manner. For example, weaving can be taught as a one step process where yarn is woven into a

product. On the other hand, elders repeatedly stressed the importance of teaching children the entire process of weaving that includes shearing, carding, spinning, dying, etc. This process represents important Navajo values and links the life of the weaver to her natural world (Luomala 1968:Chapter 11).

A vocational and skills emphasis on education seems to arise from the traditional educational philosophy (see above) where knowledge functions to allow the Navajo people to fulfill a well rounded and holistic life. The formal education system of the past has not served to fulfill this cultural value, and because of this education is viewed by many as purely job training. In general, elders preferred training in subjects that could be done in the context of the household thus serving to link the social and economic spheres that have always been closely tied in Navajo cultural life.

Navajo Life-Style

Another reoccurring theme that was expressed by the elders was the relationship of education to life-style. This relationship has already been touched upon but cannot be stressed enough since this appears to be a core educational value. In traditional Navajo culture, education and life-style cannot be separated. Modern Navajo elders want a return to an education system where there is a close

congruence between the two. Currently, many Navajo don't see the relevance of education to their lives (Southwestern Behavioral Institute 1971; Leighton and Kluckhohn 1948; NNER 1978; .

Elders frequently mentioned a gap between school life-style and home life-style. This is felt to be the fault of both school curriculum and educational philosophy. School curriculum often lacks subjects that can benefit the activities that occur in many Navajo homes (see Kent 1984) and this is seen by some to contribute to students' lack of interest in school. Navajo elders would like to see many home skills taught in the schools. One thing that was often mentioned was that traditional Navajo cooking should be included in the curriculum. Perce (1986) provides an account of how this can be successfully done.

Modern education values also are seen as contributing to the school/home gap. Anglos tend to see formal education as distinct from domestic activities. Anglo children are educated away from the home in subjects that do not relate to activities or values of domestic life. Navajos tend to see education as directly related to domestic activities. Traditionally, children were educated in the home by family members, and taught values and skills that were directly related to household success. Modern Navajo elders want to close this gap. They want to see Navajo cultural education occur in the schools but also stress that this needs to be

reinforced at home. Schools are seen as having created a situation where Navajo children only value school education and don't take an interest in learning in their homes. This is often expressed by children in school where more rural Navajos are made fun of for their "backwardness" and at home where children call traditional activities "old fashioned". Most of these elders think that increasing the links between parents/teachers and home/school will help to resolve this problem.

Two other themes were expressed with some frequency and relate to other aspects of Navajo life-style. A few Navajo elders thought that the incorporation of the Anglo religious system with the Navajo life-style has become a problem. Anglo religion has been a part of reservation life since the late 1800's (Shirley 1986). Through time, the many denominations present on the reservation have become more and more influential. Many of the Anglo religious beliefs have been incorporated with traditional Navajo beliefs; however, many others stand in direct conflict with Navajo values. Some of the elders thought that this value conflict is seriously threatening the children's opportunity for learning traditional values since many parents hold Anglo religious values and prohibit the expression of traditional ways. Because of this elders see a potential problem in administering traditional subjects in the school system.

Another problem that arises from traditional and modern educational values is the practice of suspension as a form of disciplinary action. Elders pointed out that suspending children from school is only effective when education has a high value. When education has a low value suspension only reinforces this low value by showing that school attendance is not really that important. These elders are concerned that school policies such as this contribute to drop out and attendance problems rather than improving the value of education on the Reservation.

Culture, Behavior, and the Built Environment

During the last 30 or 40 years scientists have placed considerable emphasis on studying architecture, which is more precisely termed the built environment, and the effect that it has upon humans (see Lang 1987). Prior to the 1950's little relationship was seen between people and their built environment. The built environment was almost exclusively seen as a buffer against the natural environment and had little to do with human activities or perceptions. During the 1950's, psychologists began to examine the built environment. As a result of this research, the built environment began to be seen as having a much greater role in the lives of people who live and work within built forms. In this period the built environment was given deterministic properties. An example is the research on color and behavior in which certain human behaviors were thought to be determined by specific colors. While the built environment does have many deterministic properties, research in the 1960's and 1970's turned away from universal factors of causality to examine culture-specific variability. This research led to the point of current understanding where the built environment is held to exist in an interactive relationship with people (Rapoport 1976). People give

meaning to their built environment and, at the same time, the built environment helps to structure human categories of meaning. This becomes extremely important in the design of the built environment and particularly so in cross-cultural settings. Different cultural perspectives will provide a different criteria for judging the appropriateness and adequacy of a structure.

Function of the Built Environment

It has generally been acknowledged that the built environment has three functions. These are (1) to mitigate the effects of the natural environment, (2) to regulate and structure interaction and activity, and (3) to provide information to the user of the built environment. The function of the built environment in mitigating the effects of the natural environment primarily concerns issues of building technology (see Rapoport 1969) and will not be discussed here. However, the other two functions of the built environment are directly related to cultural values and behavior and will be briefly discussed.

From a behavioral point of view, the construction of the built environment can best be seen as the construction of voids rather than the construction of masses. Humans build spaces rather than structures and these spaces form the context for human activity and interaction. Since the built environment can constrain the amount of human

permeability, the organization of the built environment will structure the behavior that occurs within the it. Although the built environment does not determine behavior, it provides the possibility for choice, with some choices being more probable than others in given physical settings (Andrews 1975, Rapoport 1977). Thus, spatial systems reflect human interaction and human activity on a systemic level. By examining the organization of a spatial system through a social perspective of user action and interaction, one can understand the organization of the behavioral system (Hillier and Hanson 1984).

In addition to defining and ordering space, the built environment also provides information about the space to users of the spatial system (Broadbent et al. 1980; Preziosi 1979a, b; Rapoport 1977, 1982; see also Gottdiener and Lagopoulos 1986). Rapoport (1982:300) has stated, "...buildings and settlements are ways of ordering behavior by placing it into discrete and distinguishable places and settings, each with known and expected roles, behaviors and the like." The built environment provides clues to the appropriateness of behavior in a given space. These clues are in a sense arbitrary; they arise from the designer/builder's conceptualized ideal form for a particular function. But it is thought that they are organized in a grammatical form, much like a verbal language, with a minimal number of meaning elements that can be arranged in many different combinations through a system

of rules. Participants of a cultural system will not necessarily be aware of the built meaning system but will be fluent in it. When they create a built environment they are encoding information about themselves and the spaces they are building; when the spaces are used by others, this information is read, used, and can even be manipulated.

Vernacular and High Style

When the designer/builder of a built environment is also the user of the built environment, there will be a close congruence between the ideal form and the expression of this ideal in the built form. When access to building materials and technology is in the hands of the user, the user can construct, modify, or destroy the built environment according to his needs. When such a system exists, it is called vernacular architecture. Vernacular architecture is a valuable information source when studying the culture and behavior of the user because this information is coded into the built system.

Specialized cultural systems that restrict access to resources and technology exist on the opposite end of the continuum from vernacular systems. Design within these systems is called high style. The users of the built environment are not in control of their own built system and when design or modification is needed to meet a behavioral need, a design specialist (architect) is called in to do the

job. In high style systems there is often a lack of congruence between the user and their built environment. The organization of the spatial system may not match the organization of the behavioral system. Likewise, information encoded into the built environment may not be correct or may even be encoded into a language that the users do not understand. In vernacular systems the built environment always "works"; it is only is high style systems that you find architecture that does not meet the needs of the users.

The Design Problem

The Navajo have both vernacular and high style elements in their cultural system. Most domestic architecture on the Reservation is still vernacular. Non-domestic architecture, and some domestic architecture as well, is high style. Stores, offices, schools, hospitals, etc. all are designed by those other than the users. In fact, most are designed by those from another cultural system who do not speak the language of the Navajo built environment. In such cases, the fundamental design problem is bringing the built environment into close congruence with the users and their cultural system.

This is particularly important in educational facility design. When Navajo education took place in the home, educational values and cultural knowledge were reinforced by

the structure and organization of the built and natural environments. Now that the focus of learning Navajo culture and Navajo values in shifting to the formal educational system, the design of educational facilities must contribute to this learning by teaching as well. Designers must attempt to learn the Navajo built language. Modern educational values of tribe and community must first be translated into their behavioral correlates and then these behaviors must be translated into the built forms that best accommodate these behaviors.

The previous sections of this report have focused on determining educational and cultural values of Navajo living within the Window Rock Consolidated School District and establishing the theoretical basis for linking culture, behavior, and the built environment. The remainder of this report examines the built correlates of these educational values.

Factors in Navajo Educational Facility Programming

Introduction

This section of this report focuses on ways that the built environment of a Navajo educational facility can reflect and reinforce contemporary Navajo educational values. As previous sections have pointed out, the activities and views of the facility users are extremely important in designing, particularly in cross-cultural settings. However, the current users of Navajo schools, the teachers, students, and staff, likely do not share the educational views that were expressed by the tribal elders in this study. An excellent study of user preferences for Navajo educational design was undertaken by Ames et al. (1978; see also Preiser 1985) and should be refereed to as a complement to this report which focuses exclusively on cultural values.

Site Location

The location for an educational facility should be on land that has a high cultural value. Previous schools in the Window Rock District have been located on land fills and

other low value land. This has likely been for practical reasons; it is difficult to obtain land for schools and low value land is often available and affordable. However, location of educational facilities on land that has a low cultural value reinforces the low cultural value that education has among many Navajo. To help raise Navajo perceptions of education, schools should be located on valuable land.

Sites for educational facilities should be dispersed rather than centralized. It is much better to build many small schools and distribute them in local communities rather than to have centralized facilities. There are several reasons for this. First, Navajos believe that education is more effective at a smaller scale. This relates to the scale of traditional Navajo education. Second, Navajo culture is based on the family and community level and localized education would help to bridge the gap between education and life-style. Third, community facilities would increase opportunities for participation in the schools by tribal elders and parents by increasing visibility and decreasing transportation problems. Increasing parent commitment in the education of their children is a goal of the Navajo Nation (NNPSBA[4] 1989).

Sites should be chosen that have a clear vista to the east. In the east, the location of the light of dawn, is

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found "...all knowledge that would prepare a person to make intelligent decisions whenever he must weight values in order to determine a choice of behavior..." (Benally 1987:141). Sites should be chosen that have a clear view of the sun in the east. Locations with cliffs, vegetation, or other structures that would obstruct this light should be avoided.

Site Organization

Sites should be organized to minimize boundaries. Boundaries such as those between road and facility grounds, parking and structures, and built elements and the natural setting should be minimized. Navajos view the world holistically and don't make strong boundary distinctions. Minimizing boundaries on the site can be accomplished through careful consideration of site layout, landscaping, materials, colors, and restrictions on view.

Site organization should be balanced. Facility sites should be organized in a way that balances built features with themselves and the natural features in the vicinity.

Sites should reflect Navajo cosmic ordering. Landscaping and site planning should reflect the structure of the Navajo world. As Benally (1987:135) has stated,

> In the east was placed light (adinídíin); in the south was placed water (tó); in the west was placed wind (níłch'ih); and, in the north was placed the Black Wind (níłch'ih diłhił), the

particles of elements (matter) that gave physical structure to all creation.

Facility Organization

Materials

Local organic materials should be used whenever possible. Organic materials that are locally available should be used whenever it is possible. Navajos view themselves as a part of nature rather than removed from nature. Thus, a built environment should be constructed in a way that suggests the earth itself is enclosing and protecting rather than a built environment of non-organic materials that stresses keeping the natural environment out.

Colors

Facility colors should mirror the colors of the natural environment. Navajos are a part of the earth rather than apart from it and facility colors should be taken from the local natural environment. Local communities often have characteristic patterns and colors that are specific to the weaving of these communities. Incorporating these into the the design of facilities in those communities would help to link the educational facility with the community.

Include the colors of the four precious stones. There are four precious stones, each with their own color, that

come from different directions. These are white bead from the east, turquoise from the south, abalone from the west, and black jet from the north (Begay and Spencer 1982). These colors should be included in the appropriate directions within the facility and could be used as aids in way-finding.

Scale

A human scale should be used both on the interior and the exterior. The scale of educational facilities should relate the the scale of the user. Structures should not be more than a single floor above ground on the exterior. Interior spaces should also be limited to a single floor and "monumental" features should be avoided on both the interior and the exterior. The Navajo natural environment is of monumental proportions and facilities should be submissive to, rather than challenge, the natural environment.

Large masses in horizontal space should also be avoided. It would be preferable to break a large single structure into a group of smaller structures or, if this is unfeasible, to vary the facade of a larger structure to give the perception of a group of smaller structures.

Organization of Spaces

Avoid single function spaces. Navajo spatial organization is cyclic rather than mono-functional. Spaces are used for a variety of activities in sequence rather than

designed for a single function. This can be seen in the organization of the hogan and ramada (Begay and Spencer 1982; Kent 1984). In education facilities spaces should be flexibly designed with permanently mounted furniture and features kept to a minimum.

Maintain open spaces and structure spaces to promote interaction. Navajo culture emphasizes the group over the individual and the built environment of educational facilities should provide ample spaces for informal gatherings. The spatial system should be structured in a way that encourages interaction rather than hindering it.

Main entrance should face east. As with most Navajo structures, the entrance should face east. This is the direction that represents thinking, reasoning, planning, and philosophy (Begay and Spencer 1982; Benally 1987).

Interior organization should be balanced. The interior of educational facilities should reflect the Navajo philosophical concept of harmony and balance. Built forms and spaces should balance and should be arranged so that the different functional components of the school are not given priority over other components. When single function areas have to be designated, these areas should be arranged throughout the school in an egalitarian manner. No area should be given priority in terms of accessibility; all areas should be equally accessible.

When single function areas are necessary, they should be arranged according to the structure of the Navajo world. As Benally (1987) points out, many Anglo academic subjects correspond with Navajo philosophical concepts that themselves are associated with different cardinal directions (see page 11). If particular spaces have to be designated as single function spaces, they should be located in the portion of the facility that corresponds with the appropriate direction.

Maintain a shallow spatial structure. The spatial structure of the facility interior should be kept shallow. Deep spatial structures commonly occur when territoriality and restricted access is high. Navajos have very shallow spatial systems (usually a depth of one) and this fits their cultural emphasis on the family and community. A shallow structure in educational facilities would reinforce this value and also help to integrate the community and the school by de-emphasizing the conceptual and actual boundaries of inside and outside.

Boundaries

Always de-emphasize boundaries. Holism is one of the keys to Navajo cultural organization. Navajos do not compartmentalize in their thinking and in the organization of their built environment. Boundaries between spaces within the educational facility should be de-emphasized as should the boundary between inside/outside and human/nature.

This can be accomplished through the use of natural materials, colors, landscaping, and site/structure arrangement. When bounding spaces, the cognitive and conceptual spatial structure of the Navajo should align with the physical spatial structure of the educational facility.

Eastern boundary should be light permeable. Since the eastern morning light represents thinking, reasoning, planning, and philosophy, the eastern face of structures should be designed to allow this light to enter the facility.

Interior Decoration

Interior decoration in the form of artwork seems to be a minor part of Navajo culture and the vernacular built environment. However, there may be some benefit in incorporating traditional art and designs into the facility. Such things as telling traditional stories in murals, depicting traditional Navajo activities such as cooking, hearding, weaving, game playing, etc. in pictures, or incorporating elements of cosmology in art or other decoration may focus the attention of the students on these types of activities. If these decorative elements are presented in the form of questions, such as "What am I doing?", "Why is this important to Navajo life?", etc., it may pique the interest of children and prompt them to ask for further explanation. When the elders who were interviewed were asked about including traditional

decoration in schools, everyone was in favor but elders could not explain why this was important.

Special Rooms

The subject of special classrooms for teaching Navajo language and culture frequently arose during the interviews. Many elders though that there should be a special room and that this room should be a hogan. This is in contrast with response by others (and some of the same people) to the question "How important is the actual school building to education and learning?" The response was always that it is not important at all. It is also in contrast to elders who stated that children should learn Navajo and Anglo subjects together rather than independently. There was not enough data from the interviews to rectify these differing points of view.

If traditional rooms are used for teaching Navajo language, culture, and crafts, they should be traditional hogans rather than high style replications. In addition, it is extremely important to include the following items in these hogans: fire, fire poker, food (especially corn products), a set of upper and lower mill stones, a brush for the mill stones, dark greasewood stirring sticks, soft goods, and hard precious goods including precious stones. Without these things a hogan is not a hogan (Begay and Spencer 1982).

Vocational Facilities

Elder Navajos stressed that vocational skills should be taught in a way that they can be practiced at the household scale. Many Navajos lack electricity and access to capital for expensive equipment. When designing vocational teaching facilities these things need to be kept in mind. If Navajo can not practice the skills they learn in school, education will continue to be seen as a peripheral part of Navajo life.

Conclusions

This report has examined the relationship between contemporary Navajo educational values and their implication for educational facility design. If a single conclusion can be made from this study it is that there is a serious gap between the life-style of modern Navajos and their educational system. While this gap was not always made explicit, it was implicit in many of the concerns that Navajo elders expressed. This gap should be of primary concern to educational planners.

The primary design problem for Navajo educational facilities is to ensure that there is a close congruence between Navajo culture and behavior and the built environment. This report has made several recommendations to help resolve this problem.

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Appendix A: Field Discussion Outline

W.R.U.S.D. Chapter House Interviews
(October, 1989; RFTA)

"INTRODUCTION TO EACH INTERVIEW SESSION"

Interpreter:

1. I am _____ and I have been employed to help the W.R.U.S.D. find out what those people who live in the W.R.U.S.D. believe the school children of the district should learn about Navajo culture, traditions, values, beliefs, and concerns. (I live in _____, and my clan is _____.)

2. Sitting here with me are:

   a. Mr. Christopher Dore of the University of New Mexico. He will be listening to my English translation of what you tell me.

   b. Mr. Bob Lalicker, retired from UNM, who will be operating the tape recorder and helping me to coordinate the coming and going of interviewees.

   c. Dr. Richard Tonigan who arranged for these interviews to be conducted and who may come and go during your interview session. Dr. Tonigan's firm is being paid by W.R.U.S.D. to manage this project.

3. The purpose of our being here at this time is for us to ask you a "bunch" of questions about what you believe the school system should be teaching our Navajo children. That is, what should our Navajo children learn while they are attending school. We are especially interested in listening to what things <u>you</u> believe it is important for Navajo children to know about their past, about things that are important to Navajos who live in the area and what things children should learn at school as compared to what they should learn at home or elsewhere in their communities.

4. Each of the Navajos who completes one of these interviews (and 35 have been invited for the five W.R.U.S.D. chapters to be interviewed) will be paid $20 at the completion of the interview session.

5. These are the things which we would like you to tell us about.

1) What activities have been taking place here over and over that the Navajo people who live here look forward to participating in, time after time?

   a. of a family nature?
   b. of a recreational nature?
   c. of a social nature?
   d. of an economic nature?
   e. of a religious nature?
   f. of an educational nature?

2) What do Navajo parents want their children to learn in school?

   a. The basics? (Math, English, and ?)
   b. Navajo culture?
   c. Navajo Language?
   d. Navajo arts?
   e. Tribal government/politics?
   f. What else?

3) What do Navajo parents/grandparents <u>not</u> want their children to learn at school?

Now let's go through these items one by one.